ABSTRACT

BACTERIAL FLORA OF SPUTUM, ITS ANTIBIOGRAM AND ITS RELATIONSHIP WITH SEVERITY OF COPD IN PATIENTS WITH ACUTE EXACERBATION – A HOSPITAL BASED STUDY IN A TERTIARY CARE HOSPITAL

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Background:

Chronic obstructive pulmonary disease (COPD) is a common disease characterized by persistent airflow obstruction with an enhanced chronic inflammatory response in the airways and the lung to noxious particles or gases.

The aim of the present study was to obtain comprehensive insight into the bacteriological profile and antibiotic sensitivity pattern in sputum culture of AECOPD patients and its relationship with severity of COPD. Knowledge of

common bacterial pathogens and their sensitivity pattern to antibiotics will help in early proper institution of appropriate antibiotic therapy in AECOPD.

Methods:

A retrospective observational study was carried out at MADURAI MEDICAL COLLEGE AND GOVT RAJAJI HOSPITAL , MADURAI which comprised of 100 patients diagnosed with chronic obstructive pulmonary disease from NOVEMBER 2015 TO APRIL 2016.Sputum culture and sensitivity reports were retrospectively analysed for the bacteriological profile and their antimicrobial sensitivity pattern. COPD severity was assessed by FEV1 and FEV1/FVC.

Results:

Hundred patients diagnosed with COPD included with the age group comprising from 40 to 70 years of age, most common pathogenic bacteria isolated was ***Klebsiella pneumonia*****(52%),** followed by ***Pseudomonas aerogionsa*** **(27%),** ***Klebsiella oxytoca*** **(10%),** ***Coagulase negative staphylococcus aureus*****(10%),** ***Enterococcus*****(1%)** .In patients with FEV1 <50% Pseudomonas was isolated more frequently . So there is significant association between COPD severity and organism .

Klebsiella pneumonia ,Pseudomonas ,Klebsiella oxytoca ,CONS were 100% sensitive to Cefeperazone sulbactum,Klebsiella pneumonia was 90.3% sensitive to Amikacin and Gentamycin , 73% sensitive to ciprofloxacin and 100% resistant to Ceftriaxone and cefatoxime .Pseudomonas was92.5% sensitive to Amikacin and Gentamycin, 89% sensitive to Ciprofloxacin.

Conclusions: *Klebsiella pneumoniae* was the most common pathogen followed by Pseudomonas in AECOPD patients, and Cefeperazone sulbactum was most effective antibiotic against the most of the organism. Cefeperazone sulbactum should be the first line empirical antibiotic.

KEY WORDS:

1. COPD- Chronic obstructive pulmonary disease.

2. **AECOPD**- Acute exacerbation of chronic obstructive pulmonary disease.